

## **ABSTRACT**

An apparatus and method of obtaining information about a property of interest relating to an earth formation resulting in reduced ringing effects is discussed. A Nuclear Magnetic Resonance (NMR) logging tool is conveyed into a borehole in the earth formation. A  
5 first pulse sequence is applied having a first associated measurement frequency, and first NMR signals are measured. The first NMR signals include non-formation signals resulting from an excitation pulse and a refocusing pulse in the first pulse echo sequence. A second and third pulse sequence, at different frequencies from each other and from the first frequency, is applied, and corresponding second and third NMR signals are  
10 measured. A phase of the non-formation signals resulting from the first pulse echo sequence and a phase of the non-formation signals resulting from the second and third pulse echo sequences are substantially evenly distributed around a unit circle.